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PATENT SPECIFICATION



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487,796

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PROVISIONAL SPECIFICATION

Improvements in Pipe Couplings

I, ALFRED CHARLES MOTT, of 27, Ansford Road, Bromley, in the County of Kent, a British Subject, do hereby declare the nature of this invention to be as follows:—

This invention relates to pipe couplings and especially to that type of coupling in which the ends of the pipe to be connected are each provided with sleeves having flanges which are drawn together by a flanged coupling nut in screwed engagement with one flange to provide a metal-to-metal contact between the meeting faces of the flanges. The invention is specially concerned with pipe couplings for use with beer pumps although it may be equally well applied to pipe couplings for connecting water and gas mains.

10 Pipe couplings as applied to a beer pump as heretofore constructed, for example, of the spigot and socket type, when assembled and made liquid tight almost invariably have the disadvantage that a recess obtains between the two members of the coupling and forms a means for the lodgment of dirt and other débris and a receptacle for liquid which in the case of alcoholic liquors and 15 where the beer pump is out of use for some hours would become stale and contaminate the liquid initially drawn therefrom at some later time.

20 The object of the invention is to obviate the disadvantages indicated and to this end a pipe coupling of the type described is provided wherein the meeting face of one flange is formed with an annular channel and the meeting face 25 of the other flange is formed with a correspondingly shaped ridge.

Preferably the channel is of V-form in cross-section and is so disposed in relation to the inner wall of the sleeve 30 as to provide a chamfer edge thereto to meet the inner face of the correspond-

ingly shaped ridge, and provide a smooth bore to the coupling.

Each coupling sleeve is provided internally with a shoulder against which the end of the entering pipe abuts in such a manner as to provide a smooth surface without a break, the end of the pipe making a screw joint or being soldered in position.

55 It will be appreciated that one of the flanges of the coupling is screw threaded to engage the flanged nut the flange of which abuts against the flange on the other coupling member, so that when the 60 nut is tightened to draw the faces of the coupling members together the ridge on the one member enters the channel on the other member and makes the fluid-tight joint. Preferably the angles of the 65 V-channel and of the ridge differ in such a manner as to provide two lines of contact, that is to say, a line of contact between the abutting outer and the abutting inner edges or boundaries, respectively, of the ridge and channel.

In a construction where a face contact is preferred and in order that the apex of the ridge does not seat dead within the base of the channel and thus prevent a 75 fluid-tight joint being obtained, the apex of the ridge is turned down to rounded form.

The invention provides a coupling especially for beer engines in which the 80 free and unobstructed passage is provided for the liquor and a coupling which is simple in form and one that is capable of being manipulated to give a fluid-tight joint.

85 Dated this 24th day of December, 1936.

MEWBURN, ELLIS & CO.,
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London, W.C.2,
Chartered Patent Agents.

COMPLETE SPECIFICATION

Improvements in Pipe Couplings

I, ALFRED CHARLES MOTT, of 27, Ansford Road, Bromley, in the County of Kent, a British Subject, do hereby

[Price 1/-]

declare the nature of this invention and in what manner the same is to be performed to be particularly described and

Price 4/-

ascertained in and by the following statement:—

This invention relates to pipe couplings and especially to that type of coupling in which the ends of the pipe to be connected are each provided with a sleeve or ferrule having flanges which are drawn together by a flanged coupling nut in screwed engagement with one flange to provide a metal-to-metal contact between the meeting faces of the flanges, and wherein the meeting face of one flange is formed with an annular V-shaped channel and the meeting face of the other flange is formed with a correspondingly shaped ridge. The invention is specially concerned with pipe couplings for use with beer pumps although it may be equally well applied to pipe couplings for connecting water and gas mains.

Pipe couplings as applied to a beer pump as heretofore constructed, for example, of the spigot and socket type, when assembled and made liquid tight almost invariably have the disadvantage that a recess obtains between the two members of the coupling and forms a means for the lodgment of dirt and other débris and a receptacle for liquid which in the case of alcoholic liquors and where the beer pump is out of use for some hours would become stale and contaminate the liquid initially drawn therefrom at some later time.

According to the invention in a pipe coupling of the type described the channel in one flange and the ridge on the other are of differing angles and preferably the channel is so disposed in relation to the inner wall of the sleeve as to provide a chamfer edge thereto to meet the inner face of the correspondingly shaped ridge, and provide a continuous bore to the coupling.

In order that the invention may be clearly understood reference is directed to the accompanying drawings wherein:

Fig. 1 is a sectional elevation of a pipe coupling constructed in accordance with the invention and showing the component elements disassembled;

Fig. 2 is a similar view to Fig. 1 with the component elements thereof assembled;

Fig. 3 is an enlarged view of the upper part of Fig. 2.

In the drawings which show the preferred method of carrying the invention into effect, a pipe coupling is illustrated comprising a ferrule 1 and a sleeve 2, which are connected together through the intermediary of a nut 3. The ferrule 1 is formed with a flange 4 which co-operates with a flange 5 on the

aforesaid nut 3, and the sleeve 2 is provided with the screw threaded end 6 which engages the interior screw thread 7 of the nut 3. The construction is such that when the ferrule is disposed within the nut 3, the flange 4 thereof abuts against the flange 5, the sleeve 2 may be screwed home in the nut to clamp the two parts, that is to say the ferrule and the sleeve together. It will be appreciated that the ends of the pipe to be coupled which are indicated at 8 and 9 respectively, in Fig. 2, are soldered or otherwise secured to the ferrule and sleeve respectively.

The extremity of the sleeve 2 is provided with an annular channel 10 of V-form in cross-section, and is so formed in the end of the sleeve 2 that a chamfer edge 11 is provided to the inner wall of the said sleeve. The annular channel 10 co-operates with a V-shaped ridge 12 formed on the end of the ferrule 1, so that when the ferrule and the sleeve are drawn together by means of the nut 3, the ridge 12 fits within the channel 11 and effects a fluid-tight joint and at the same time presents a continuous bore to the interior of the coupling.

The sleeve and ferrule are provided interiorly each with a shoulder 13 against which the corresponding ends of the entering pipes abut in such a manner as to provide a smooth surface without a break; the end of the pipe may be screwed or soldered in position.

The angles of the V-channel and of the ridge differ as shown in the drawing as to provide a line of contact, that is to say, a line of contact 14 between the abutting faces of the ridge and channel.

In order that the apex of the ridge does not seat dead within the base of the channel and thus prevent a fluid-tight joint being obtained, the apex of the ridge is turned down to rounded form.

The invention provides a coupling especially for beer engines in which the free and unobstructed passage is provided for the liquor and a coupling which is simple in form and one that is capable of being manipulated to give a fluid tight joint.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. A pipe coupling of the type described wherein the channel in the face of one flange of the coupling and the ridge on the face of the other flange are of differing angles.

2. Pipe coupling as claimed in claim 1 wherein the channel is formed with a

chamfer edge for the purpose specified.

3. The improved pipe coupling constructed, arranged and adapted to operate substantially as described with reference to the accompanying drawing.

4. A pipe coupling as claimed in

claim 1 when used in a beer engine.

Dated this 6th day of December, 1937.

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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

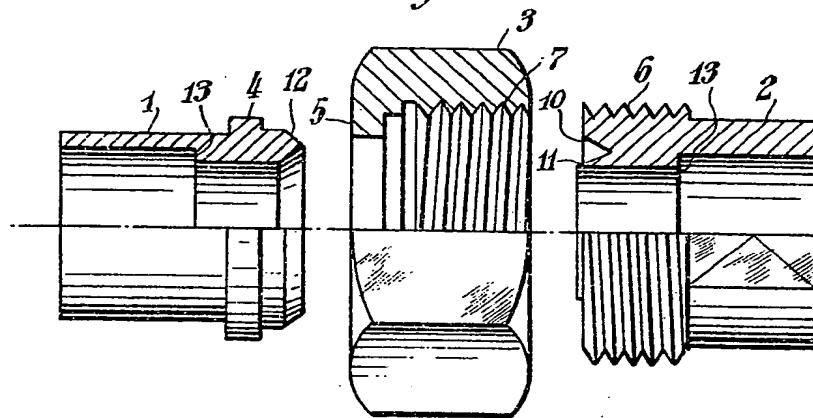


Fig. 2.

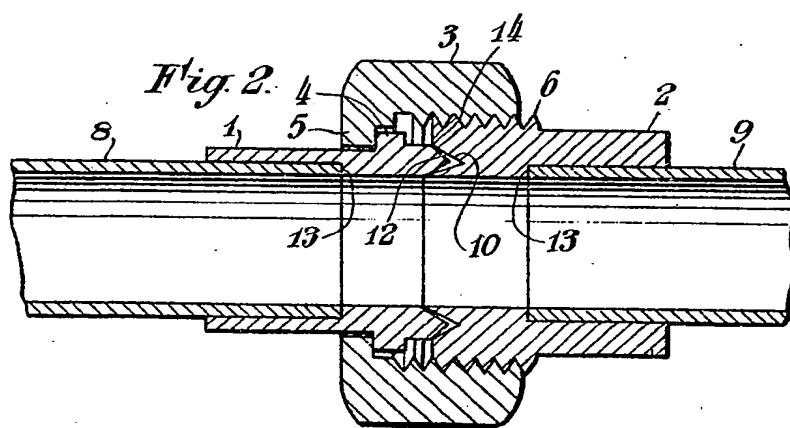


Fig. 3.

